

**Vectorborne Disease
Surveillance in Wisconsin,
2002-2007**

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Wisconsin Surveillance

Statewide- 2007

- WNV surveillance includes 3 major components: monitoring for human illnesses, equine, and dead birds (corvids) testing.
- Electronic reporting- WEDSS in August 2007.
- Coordinate activities among numerous partners- Local Health Departments, DNR, USDA-Wild Life, Wisconsin State Laboratory of Hygiene, UW-Vet Diagnostic Lab, and CDC.
- Prevention and control- provide brochures, pocket size information cards, “fight the bite” campaign items for public health educational meetings and seminars.

Wisconsin Surveillance

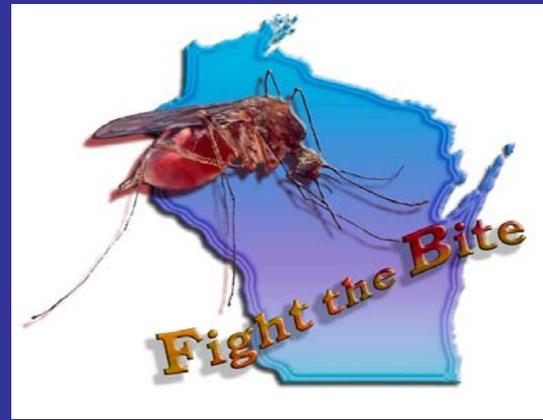
Local Health Departments (LHDs)

- Contract with 16 LHDs to help control the spread of West Nile Virus (LAC in certain regions).
- Encouraged LHDs to partner with other nearby counties.
- Submit dead birds to the Dead Bird Hotline for testing.
- Conduct surveillance, public education, and mosquito control activities in their regions.
- Submit a summary to WDPH of how funding was used at the end of the season.

Wisconsin Surveillance

Mosquito Control

- Monitor for man-made or artificial habitat for mosquito species transmitting WNV and LAC viruses.
- Monitor for long term natural breeding areas- ditches, storm sewers, woodland, ponds, and wetland areas.
- Control of mosquitoes by treating with bacterial larvacide in areas where water may be retained over a prolonged period.
- Collect mosquito pools (ovi position traps for *O. triseriatus* and mosquito larvae testing for *Culex* species).





Public Health Education

- **Media contact: television, radio, and newspaper interviews**
- **Distribute pamphlets, pocket cards, and brochures to citizens, government sponsor programs, schools, senior services, and private agencies requesting information for health events.**
- **Created educational PowerPoint for local schools.**



Are You Smarter Than A
Mosquito?

Stay tuned to find out!

Provided by the Rock County Health Department
2007

Human Disease Surveillance

- WI Arbovirus / WNV surveillance program began in 2002
- Supported and fully funded by CDC (ELC)
- Confirmed all positive and equivocal IgM results from commercial labs
 - Testing is performed at Wisconsin State Laboratory of Hygiene (WSLH)
 - Arbovirus panel including: WNV, LAC, EEE, SLE, and WEE
 - Type of tests: MAC-ELISA, microsphere immuno assay/ Bioplex (MIA), and plaque-reduction neutralization (PRNT) testing
 - Further testing by CDC

Human Disease Surveillance

- In 2007, 80 positive WNV laboratory results were reported to WDPH.
- 12 (15%) met WNV case definition consistent with current infections; 65% were determined as previous infections with WNV (IgG+, IgM-).
- Ages ranged from 22-84 years old (median=58yrs).
- 50% were females, 67% were hospitalized, and one death.
- 50% of the cases involved neuroinvasive disease.
- 2 PVD blood donors, one developed symptoms a day after donating blood.

Bird Surveillance Components

Statewide Dead Bird Reporting Hotline

- Open all year for phone intake from citizens- 1,644 phone calls
- Accepting dead bird testing from May through November- 49 positives out of 146 tested (31 counties).
- Monitor for West Nile Virus and Avian Influenza



**Crows-85%
positives**

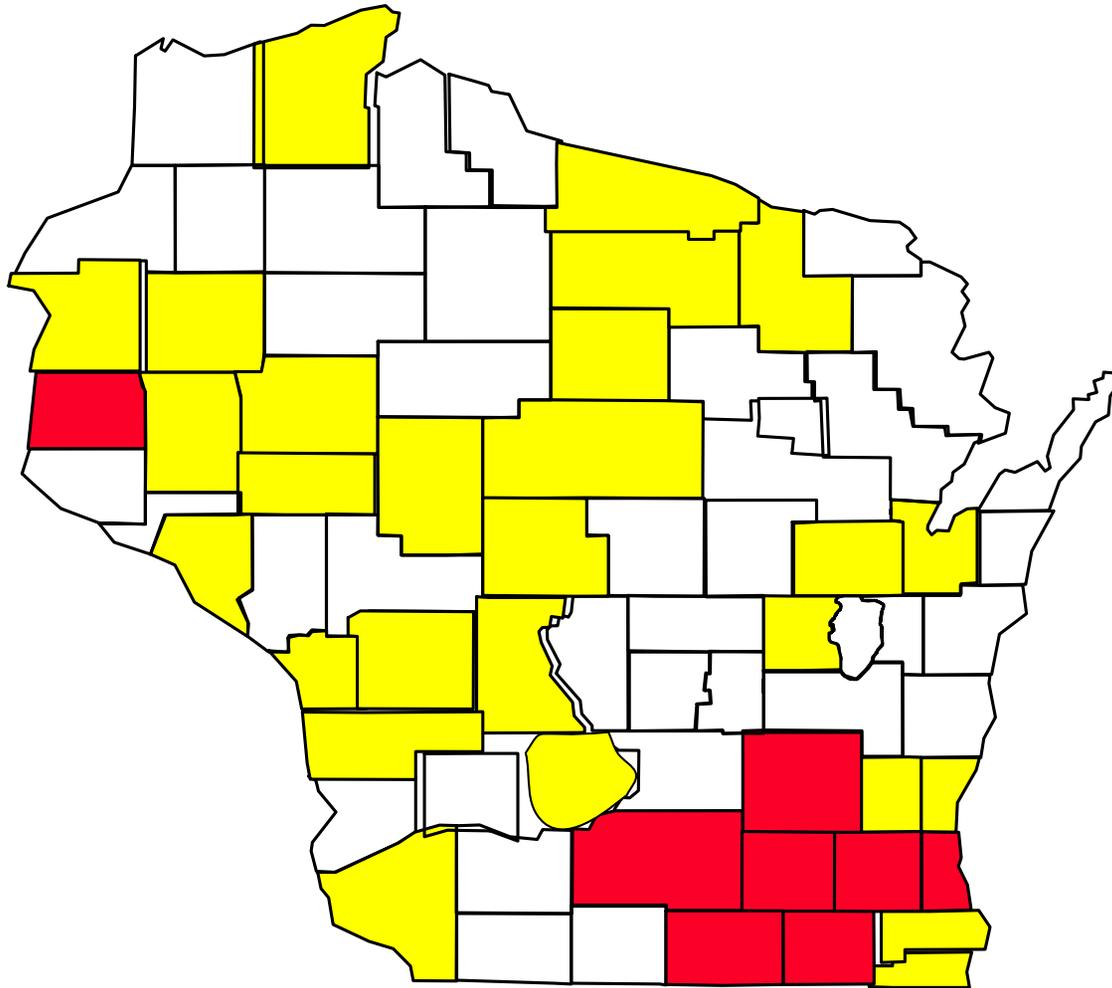


**13% positive blue
jays**



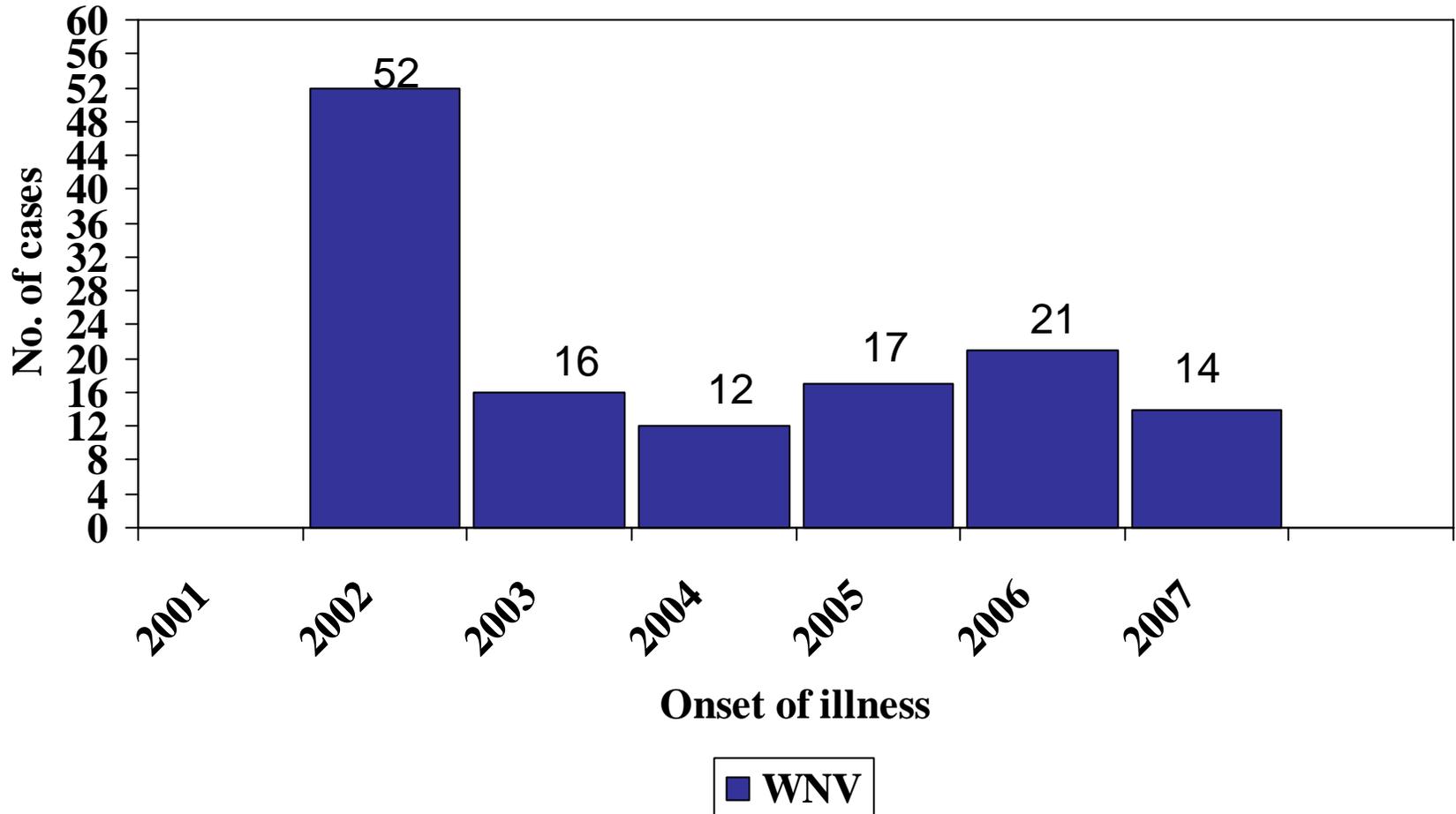
One positive raven

All WNV activities= red
Animals only= yellow

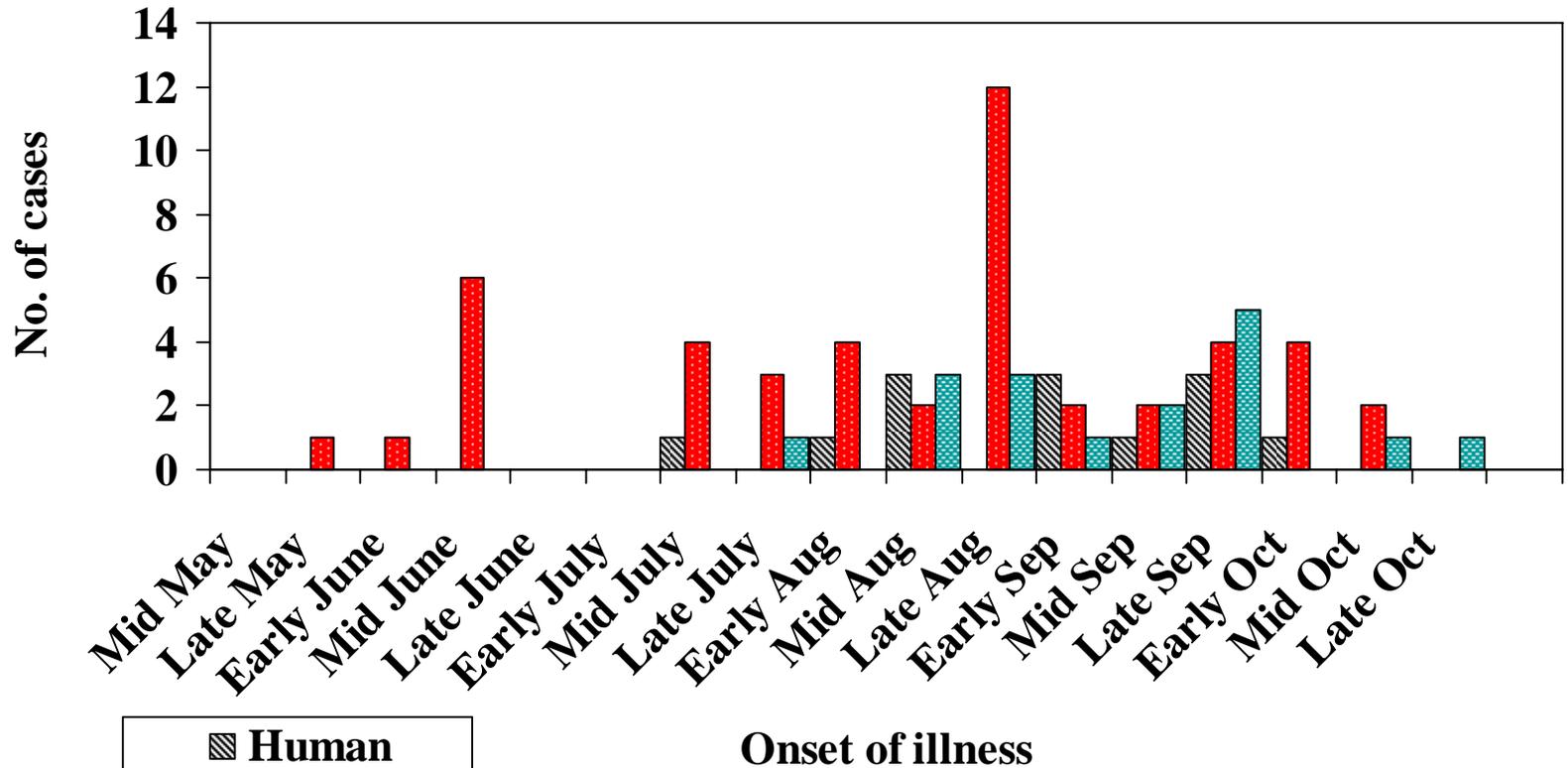


Note: Counties ceased testing birds for WNV after receiving 2 positive results

WNV Human Cases in WI, 2002-2007

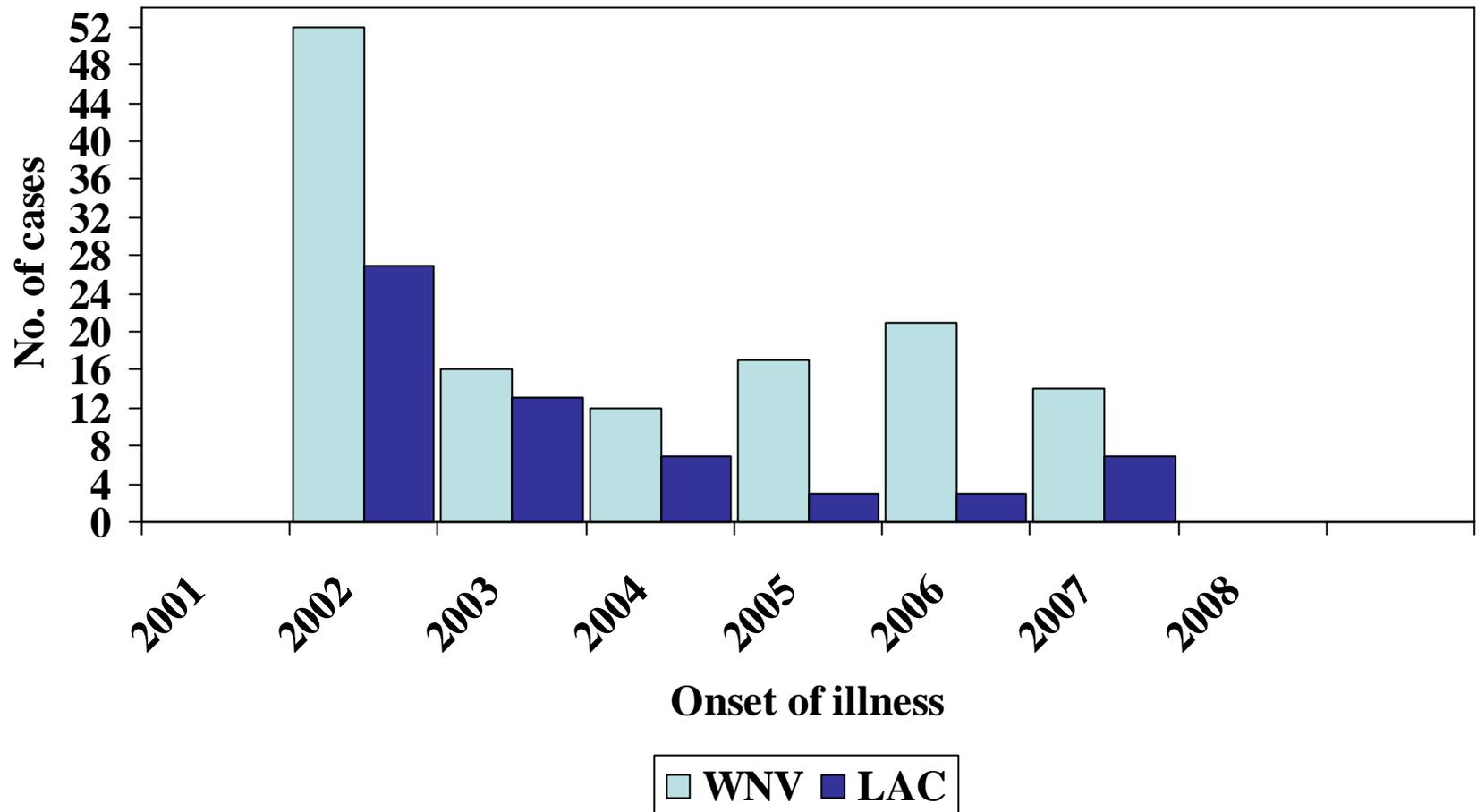


WNV Human, Avian, and Equine in WI, 2007



Early = day 1-10
 Mid = day 11-20
 Late = day 21-31

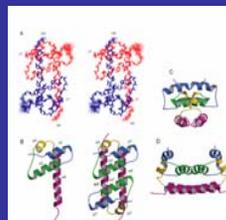
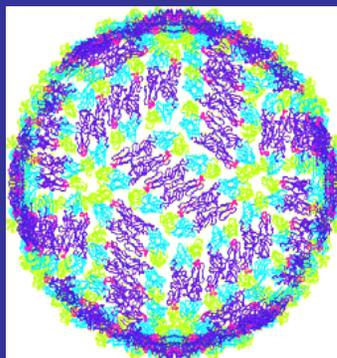
WNV and LAC Human Cases in WI, 2002-2007



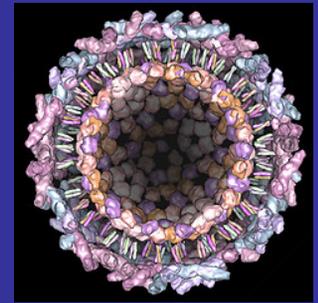
Other Arbovirus Illnesses

Dengue Fever- 9 cases in 2007

- One of the most common cause of fever in WI- travelers returning from tropical areas such as Caribbean, South and Central America, Southeast Asia, and Africa.
- Symptoms include fever, severe headache, retro-orbital eye pain, arthralgia, myalgia, nausea, vomiting, and rash.



Other Arbovirus Illnesses

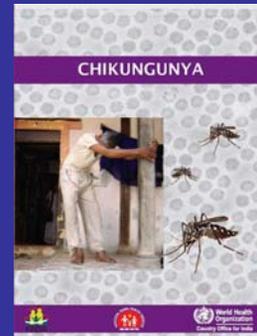


Chikungunya (CHIK)-

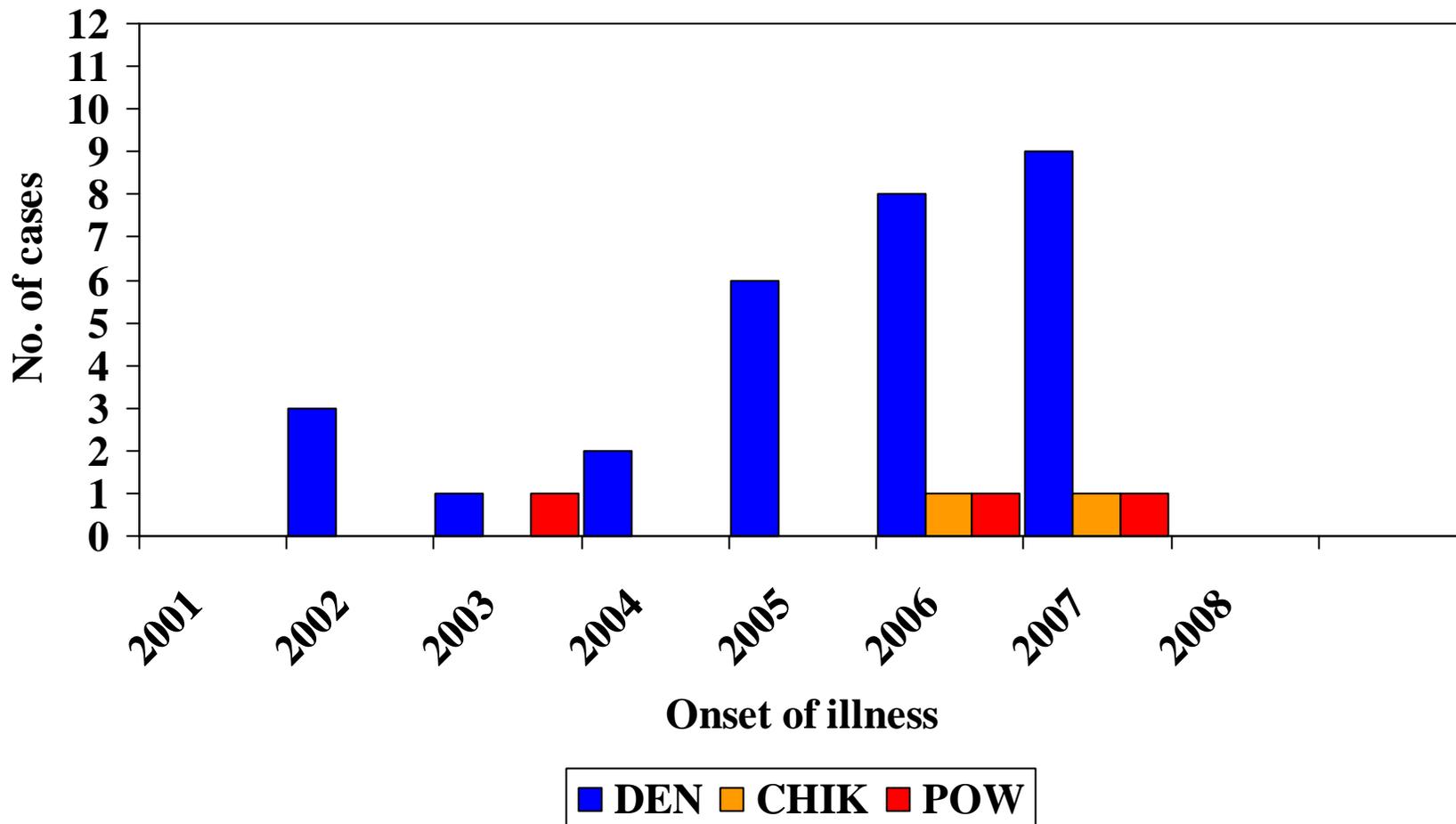
- One case reported from a traveler returning from India.
- Symptoms include fever, chills, headache, nausea, vomiting, joint pain, and rash.

Powassan (POW)-

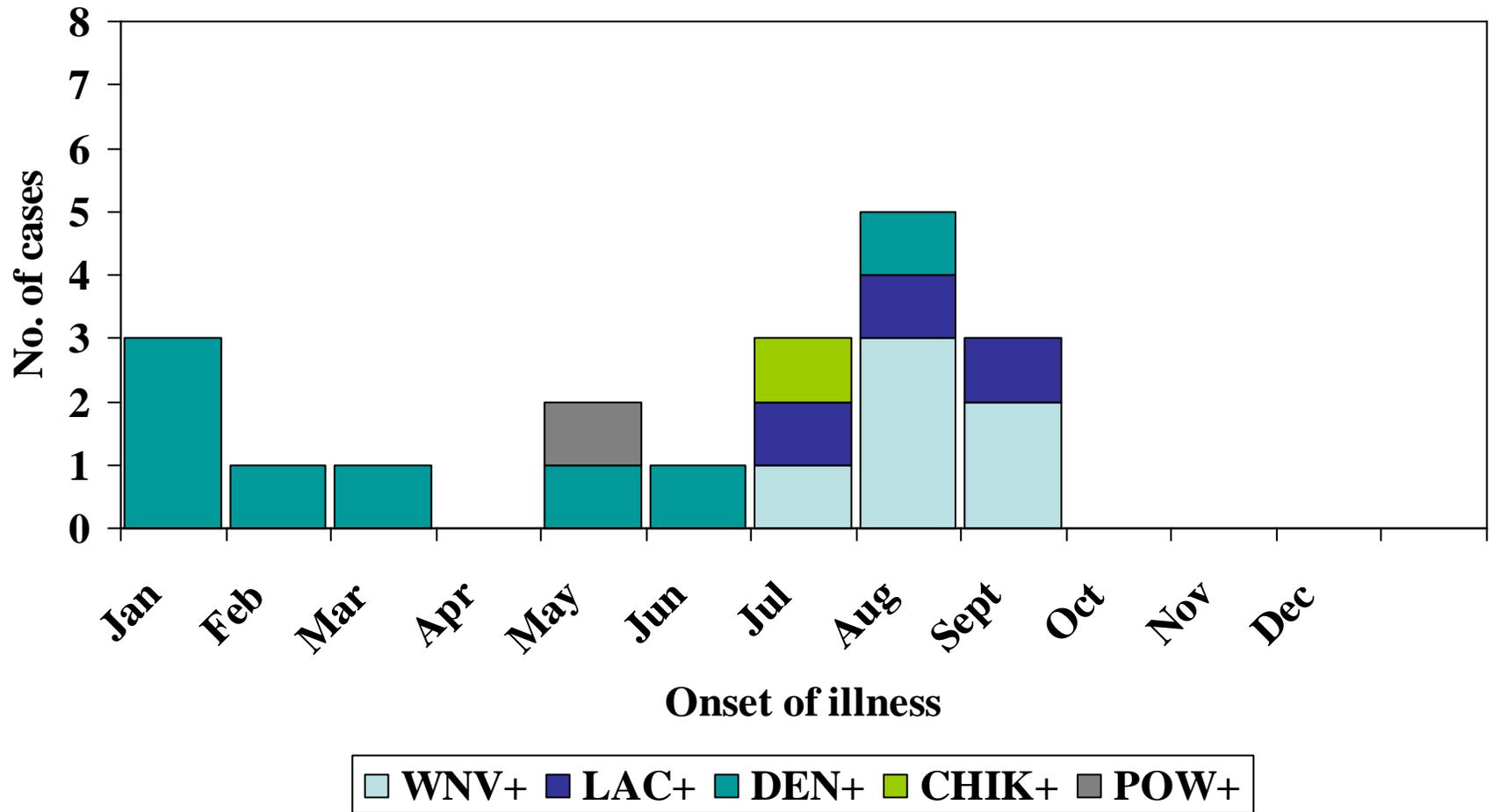
- One case reported in WI
- No history of traveling to other states but had traveled to another county for Turkey hunting 2-3 weeks before illness.
- Initial lab result performed at a private lab was positive for LAC, confirmation at WSLH showed equivocal result for LAC, CDC confirmed POW positive and negative for all other arboviral agents.



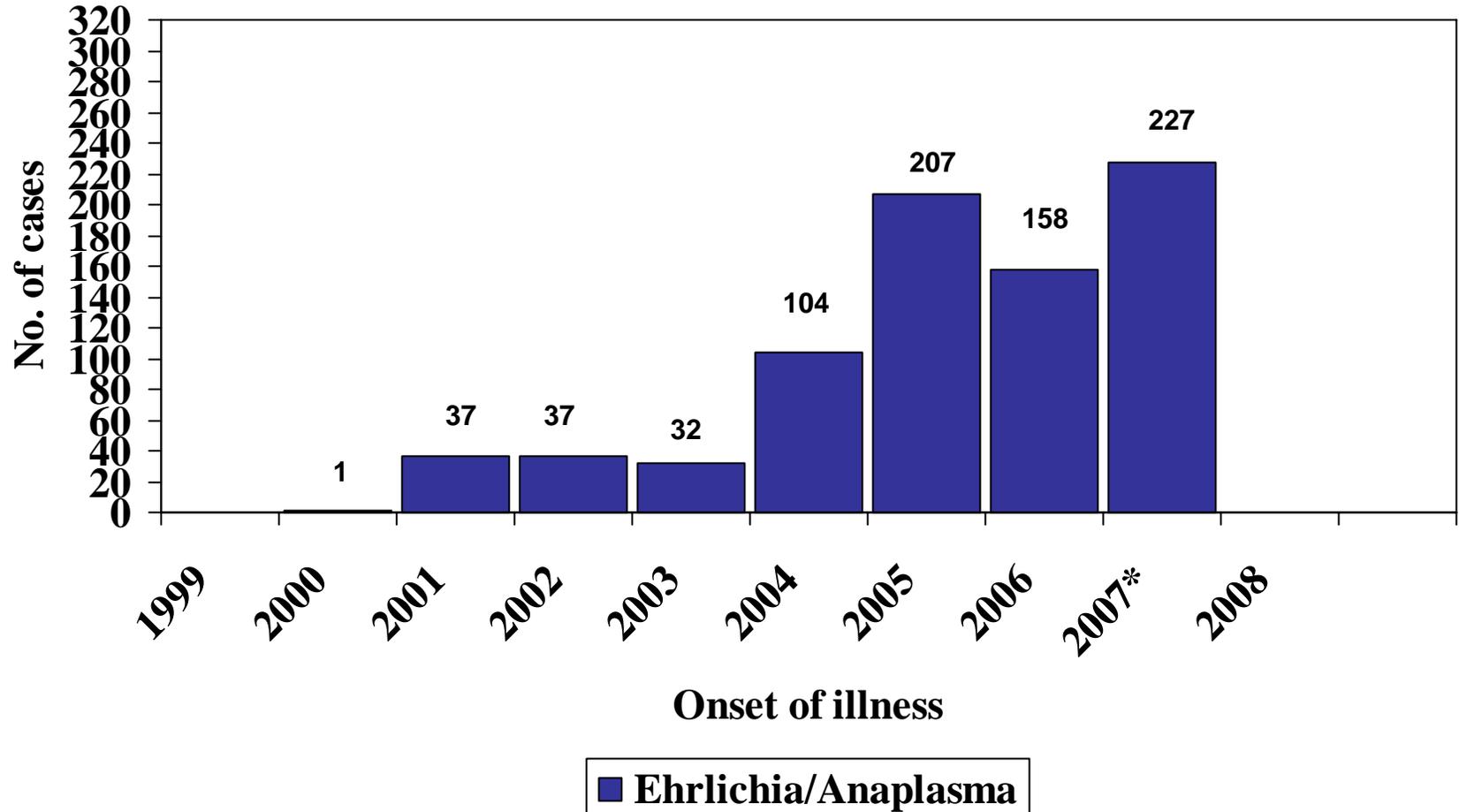
Other Arboviral Human Cases in WI, 2002-2007



Human Arboviral Cases 2007

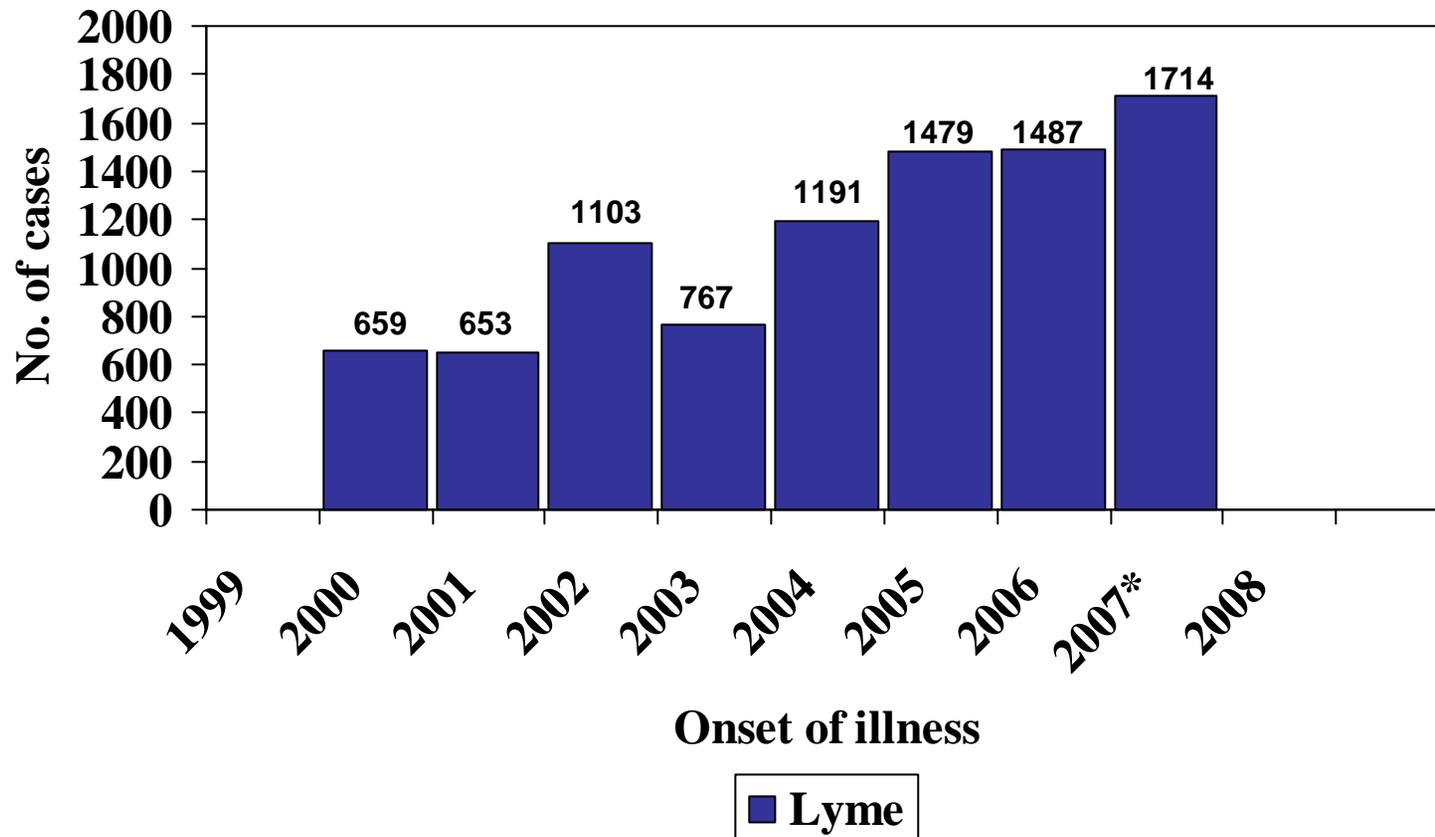


Ehrlichiosis/Anaplasmosis infections in WI, 2000-2007



* Year 2007 number of cases is incomplete

Lyme diseases in WI, 2000-2007



* Year 2007 number of cases is incomplete